REMARKS

The specification has been amended to correct minor grammatical errors, which corrections were also made in Applicants' parent application. Additionally, the claims have been amended to define Applicants' invention with greater particularity and to set forth the invention in such manner as to clearly demonstrate its patentability over the art. In this regard, original claims 6 through 9 and 16 through 29 have been cancelled and replaced by new claims 30 through 48. The new claims are directed to the same subject matter as the cancelled claims, but, as the Examiner will note, are specific to a DNA which codes for particular amino acid sequences or a DNA having specific base pair sequences. As thus presented, Applicants submit that the claims define subject matter which is neither anticipated nor rendered obvious by the prior art.

Original claims 6 through 29 stand rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103 as obvious over Colby, et al., U.S. Patent No. 4,262,090. The Examiner contends that the reference discloses the same or substantially the same recombinant DNA, microorganism and method as defined in the original claims. While Colby purports, in broad generalizations, to describe a procedure applicable to the preparation of cDNA and dsDNA for mammalian interferon, it is clear that the procedures described and particularly those at columns 11 and 12 of the patent do not yield a cDNA which either corresponds to the base pair sequences or codes for the amino acid sequences defined in Applicants' claims. This is clearly established by the statement at column 13, lines 33 through 38 that "an 80 nucleotide long fragment produced by HaeIII digestion of high specific activity cDNA" is used as a probe for screening transformants containing the DNA prepared in accordance with the procedure described. Thus, the cDNA prepared by Colby's method and used as a source of a probe must have two or more HaeIII sites with two of such sites being separated by 80 nucleotides.

On the contrary, the nucleotide sequence of the DNA defined in Applicants' claims has only one HaeIII site at the nucleotides numbered 471 to 474, i.e., GGCC (refer to Table 5, page 17). There are no other HaeIII sites in the coding strand of Applicants' DNA. Likewise, a coding strand for the amino acid sequence defined in Applicants' claims could not have HaeIII sites separated by 80 nucleotides. Thus it is impossible to obtain an 80 nucleotide long fragment by HaeIII digestion of the DNA coding for the amino acid sequence defined in Applicants' claims or from a DNA having the defined base pair sequences. In view thereof, it is respectfully submitted that by following the method of Colby the resulting cDNA, plasmids including such cDNA, or microorganisms harboring such recombinant plasmid would neither anticipate nor render obvious the subject matter of Applicants' claims.

It is submitted that Applicants were the first to synthesize the DNA coding for human fibroblast interferon and to deduce the correct amino acid sequence of the polypeptide. The recombinant plasmid, microorganisms harboring such plasmids and processes as presently defined in Applicants' claims are new and novel and are neither described nor suggested by the prior art. Accordingly, it is respectfully submitted that all the claims define subject matter which is nonobvious and patentable over the art.

Although not required, to ensure compliance with the provisions of 35 U.S.C. §112, and M.P.E.P. §608.01(p), Applicants are submitting herewith a Declaration which assures the availability and permanence of the deposited strain harboring the recombinant plasmid TpIF 319-13.

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ADDITIONAL PRIOR ART STATEMENT

In accordance with the provisions of M.P.E.P. §609, Applicants are submitting herewith copies of the publications listed on the attached form PTO-1449 for consideration by the Examiner. With the exception of the Research Disclosure number 18309, all of the publications bear effective dates

subsequent to Applicants' priority dates. In this regard, the Examiner will note that in Applicants' parent application Serial No. 201,359, certified translations of Applicants' priority documents have been filed. The references are, however, being submitted to complete the record since they have all been cited in Applicants' parent application.

The Research Disclosure is relevant only insofar as it reports on the possiblity of the production of interferons by "genetic engineering". The publication is silent as to the preparation of the DNA and fails to set forth any technical information other than pure speculation which would lead one skilled in the art to Applicants' invention.

Claims 10 through 15 and 30 through 48 are in prosecution.

In view of the above amendments and remarks and the Declaration submitted herewith, Applicants' respectfully submit that all the claims are in allowable condition. Accordingly, reconsideration and allowance of this application is earnestly solicited.

Respectfully submitted,

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